

REMARKS

This application has been carefully reviewed in light of the Office Action dated June 24, 2009. Claims 1, 3 to 10 and 20 to 22 are pending in the application, with Claims 1, 10 and 20 being in independent form. Claims 12 to 18, 23 and 24 have been cancelled, and Claims 1, 10 and 20 have been amended. Reconsideration and further examination are respectfully requested.

Claims 1, 3, 4 and 6 to 9 were rejected under 35 U.S.C. § 101 for allegedly not falling within one of the four statutory categories of invention. The amendments to Claim 1 are seen to attend to this rejection. Reconsideration and withdrawal of this rejection are therefore respectfully requested.

Claims 1, 3, 6, 8 to 10, 12, 15, 17, 18 and 20 to 24 were rejected under 35 U.S.C. § 103(a) over U.S. Patent Application Publication No. 2001/0035968 (Higashikata) in view of U.S. Patent No. 5,739,828 (Moriyama). Claims 4 and 13 were rejected under 35 U.S.C. § 103(a) over Higashikata in view of Moriyama and further in view of U.S. Patent No. 7,190,485 (Couwenhoven). Claims 5 and 14 were rejected under 35 U.S.C. § 103(a) over Higashikata in view of Moriyama, Couwenhoven and U.S. Patent No. 6,058,207 (Tuijin) and further in view of U.S. Patent No. 7,102,785 (Tamagawa). Claims 7 and 16 were rejected under 35 U.S.C. § 103(a) over Higashikata in view of Moriyama and further in view of U.S. Patent No. 6,172,692 (Huang). Claims 12 to 18, 23 and 24 have been cancelled without prejudice or disclaimer of the subject matter and without conceding the correctness of their rejection. Reconsideration and withdrawal of the rejection of the remaining claims are respectfully requested.

Independent Claim 1 as amended generally concerns a color processing method of determining a combination of color material signals of a plurality of kinds of color materials for reproducing a color represented by an input color signal. The method includes using a processor to perform the steps of obtaining a plurality of combinations of the plurality of kinds of color materials, each of the combinations being capable of reproducing a color represented by the input color signal, and setting a function which represents a relation between color signal and a total use amount of the color materials and in which a change in the total use amount of the color materials of the input color signal is continuous with a change in the input color signal, wherein the function is set based on a color signal of a representative color and a total use amount of the color materials of the representative color. The steps further include calculating the total use amount of the color materials corresponding to the input color signal by using the set function, and determining the combination of color material signals corresponding to the input color signal based on the obtained plurality of combinations of the plurality of kinds of color materials, by using the calculated total use amount of the color materials.

Thus, among its many features, Claim 1 provides for (i) setting a function which represents a relation between color signal and a total use amount of the color materials and in which a change in the total use amount of the color materials of the input color signal is continuous with a change in the input color signal, wherein the function is set based on a color signal of a representative color and a total use amount of the color materials of the representative color, (ii) calculating the total use amount of the color materials corresponding to the input color signal by using the set function, and (iii) determining the combination of color material signals corresponding to the input color

signal based on the obtained plurality of combinations of the plurality of kinds of color materials, by using the calculated total use amount of the color materials.

By virtue of the foregoing, it is possible to reduce the total use amount of the color materials from rapidly changing relative to a change in gradation.

Turning to the applied references, Higashikata, Moriyama, Couwenhoven, Tuijin, Tamagawa and Huang are not seen to disclose or suggest at least foregoing features (i) to (iii).

As understood by Applicants, Higashikata discloses a method which determines a combination of ink values, and judges whether the determined combination keeps a coverage limit. The combination is corrected if the determined combination does not keep the coverage limit. See Higashikata, Figure 9.

However, Higashikata is not seen to disclose or suggest (i) setting a function which represents a relation between color signal and a total use amount of the color materials and in which a change in the total use amount of the color materials of the input color signal is continuous with a change in the input color signal, wherein the function is set based on a color signal of a representative color and a total use amount of the color materials of the representative color, (ii) calculating the total use amount of the color materials corresponding to the input color signal by using the set function, and (iii) determining the combination of color material signals corresponding to the input color signal based on the obtained plurality of combinations of the plurality of kinds of color materials, by using the calculated total use amount of the color materials. In addition, Higashikata is not seen to disclose or suggest the attendant benefits provided by features (i) to (iii).

Moriyama is not seen to compensate for the deficiencies of Higashikata.

Moriyama is seen to disclose a method which controls an entire use amount of color materials based on a maximum point of use amount of color materials. See Moriyama, Abstract. In this regard, printing with high resolution is seen to differ from printing with low resolution in printing conditions, such as maximum ink applying ratio (N). Therefore, the ink applying ratio for printing with low resolution is seen to be corrected based on the maximum ink applying ratio for printing with high resolution.

However, Moriyama is not seen to disclose or suggest (i) setting a function which represents a relation between color signal and a total use amount of the color materials and in which a change in the total use amount of the color materials of the input color signal is continuous with a change in the input color signal, wherein the function is set based on a color signal of a representative color and a total use amount of the color materials of the representative color, (ii) calculating the total use amount of the color materials corresponding to the input color signal by using the set function, and (iii) determining the combination of color material signals corresponding to the input color signal based on the obtained plurality of combinations of the plurality of kinds of color materials, by using the calculated total use amount of the color materials, nor the attendant benefits provided thereby.

In addition, Couwenhoven, Tuijin, Tamagawa and Huang have been reviewed and are not seen to compensate for the deficiencies of Higashikata and Moriyama. In particular, Couwenhoven, Tuijin, Tamagawa and Huang are not seen to disclose or suggest foregoing features (i) to (iii), nor the attendant benefits provided thereby.

Claim 1 is therefore believed to be allowable over the applied references.

In addition, independent Claims 10 and 20 are apparatus and computer-readable storage medium claims, respectively, generally corresponding to method Claim 1. Accordingly, Claims 10 and 20 are believed to be allowable for the same reasons.

The other claims in the application are each dependent from the independent claims and are believed to be allowable over the applied references for at least the same reasons. Because each dependent claim is deemed to define an additional aspect of the invention, however, the individual consideration of each on its own merits is respectfully requested.

Regarding a formal matter, it is respectfully requested that the next Office Action indicate consideration of the Information Disclosure Statement filed July 29, 2009.

No other matters being raised, it is believed that the entire application is fully in condition for allowance, and such action is courteously solicited.

No fees are believed due; however, should it be determined that additional fees are required, the Director is hereby authorized to charge such fees to Deposit Account 06-1205.

Applicants' undersigned attorney may be reached in our Costa Mesa,
California office at (714) 540-8700. All correspondence should continue to be directed to
our below-listed address.

Respectfully submitted,

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